

POSTNIKOV, M.A.; SELIVANOV, A.B.

Deputies at work. Gor. khoz. Mosk. 35 no.2:40-43 P '61.

(MIA 14:2)

(Moscow--Municipal services)

KONOVALOV, M.F.; ANTONOVA, Ye.N.; POSTNIKOV, M.A.

Permanent commissions are public organs of the Council. Gor.khoz.
Mosk. 33 no.4:4-6 Ap '59. (MIRA 12:6)

1. Zaveduyushchiy Orginstruktorskim otdelom Mosgorispolkoma (for Konovalov).
 2. Starshiye instruktora Orginstruktorskogo otdela Mosgorispolkoma (for Antonova, Postnikov).
- (Moscow--Municipal government)

POSTNIKOV, M.A.

POSTNIKOV, M.A.

Mandates of the electors. Gor. khoz. Mosk. 32 no.1:30-31 Ja '58.
(Moscow--Municipal services) (MIRA 11:1)

POSTNIKOV, M.A.

Preparing for elections to the Supreme Soviet of the R.S.F.S.R. and
local Soviets of Workers' Deputies. Gor.khoz.Mosk. 33 no.1:7-8
Ja '59.

(MIRA 12:3)

(Elections)

POSTNIKOV, M.A.; KOTOV, G.L.

On the activity of the permanent housing commissions of the
local Soviets of the city of Moscow. Gor. khoz. Mosk. 30 no.7:
20-23 J1 '56. (MLRA 9:10)

(Moscow--Housing)

POSTNIKOV, M. A.

CHULKOV, V. L.; POSTNIKOV, M. A.

Use all methods to develop the initiative of public assistance
commissions. Gor..khoz.Mosk.29 no.8:37-40 Ag '55.

(Moscow—Community life)

(MLRA 8:9)

ALEKSANDROV, P.S., red.; BOL'SHEV, L.N., red.; VLADIMIROV, V.S., red.;
KUDRYAVTSEV, L.D., red.; LEONT'YEV, A.F., red.; NIKOL'SKIY, S.N.,
red.; POSTNIKOV, M.M., red.; SOLOMENTSEV, Ye.D., red.; SHAFAREVICH,
I.R., red.; GRIBOVA, M.P., tekhn. red.

[English-Russian mathematical dictionary] Anglo-russkii slovar' ma-
tematicheskikh terminov. Red. kollegiia; P.S.Aleksandrov (prodse-
datel') i dr. Moskva, Izd-vo inostr. lit-ry, 1962. 369 p.

1. Akademiya nauk SSSR. Matematicheskii institut. (MIRA 15:11)
(English language--Dictionaries--Russian)
(Mathematics--Dictionaries)

Postnikov, M.M.

Postnikov, M. M. The structure of the ring of intersections of three-dimensional manifolds. Doklady Akad. Nauk SSSR (N.S.) 61, 795-797 (1948). (Russian)

This paper gives an algebraic characterization of the homology ring of a three-dimensional manifold; the coefficient group for homologies is the group of integers mod 2. The author lists as well-known the following properties of the homology ring $\Delta(M)$ of a three-dimensional manifold M : (1) the additive group Δ is of the form $\Delta^0 + \Delta^1 + \Delta^2 + \Delta^3$, where $\Delta^0 = (q)$; $\Delta^1 = (u_1) + (u_2) + \dots + (u_p)$; $\Delta^2 = (v_1) + (v_2) + \dots + (v_p)$; $\Delta^3 = e$, and $2q = 2u_i = 2v_i = 2e = 0$; (2) the ring is commutative, e serves as identity; (3) if $x \neq e$, then $xq = 0$; (4) $uu' = 0$ for u, u' in Δ^1 ; (5) $uv_i = \delta_{ij}q$ (Poincaré-Veblen duality); (6) vv' is in Δ^1 if v, v' are in Δ^2 . To these the author contributes the following "self-intersection theorem": there exists an element v_0 such that the following identity is satisfied by it and any arbitrary pair of elements of Δ^2 : (*) $vv' + v'v' = vv_0$. The proof is asserted

Source: Mathematical Reviews.

to be straightforward but somewhat tedious. The choice of the element v_0 is explicitly given. In case the manifold M is orientable, the ring being also called orientable, $v_0 = 0$. However, if M is not orientable, v_0 corresponds to a two-cycle not homologous to zero such that $2v_0$ is a bounding cycle.

The author then sketches the proof that an abstract ring, called an $M.S.$ -ring, which satisfies all of the properties listed above, including the self-intersection theorem, is isomorphic to the homology ring of a suitable three-dimensional manifold. This is orientable, or not, depending on whether $v_0 = 0$. The proof consists in a construction of the manifold M by an inductive process on the rank p of the ring. The induction begins with the three-dimensional sphere in the orientable case and with the three-dimensional "Klein bottle" in the nonorientable.

L. Zippin.

Vol 10 No. 5

POSTNIKOV, M. M.

Postnikov, M. M. The classification of continuous mappings of a three-dimensional polyhedron into a simply connected polyhedron of arbitrary dimension. Doklady Akad. Nauk SSSR (N.S.) 64, 461-462 (1949). (Russian)
The title of this note is in error: it is the three-dimensional polyhedron which is assumed simply connected. The paper gives a necessary and sufficient condition for the equivalence in the sense of homotopy of two mappings of a simply connected, connected, three-dimensional complex K into a polyhedron Y . The condition is in terms of certain cochains on K with coefficients in $\pi^2(Y)$ and $\pi^1(Y)$. A continuous map $f(K)$ of K into Y is called normal if every point on the one-simplices of a given, but arbitrary, triangulation of K is mapped into the same point of Y . A pair of normal maps, f and g , constitute a normal pair if they coincide on the set of all two-simplices of K . If f is normal, and g is a two-cell of K , associate with f and g the element $d(f, g)$ of $\pi^2(Y)$. This defines a characteristic cocycle $d^2(f)$ over K , coefficients in $\pi^2(Y)$. A normal f and g are equivalent to a normal pair if and only if $d^2(f) = d^2(g)$.
If f and g are a normal pair and g is a three-cell of K , there is associated with them an element $d(f, g; g)$ of $\pi^2(Y)$. This element is the coefficient of a cocycle defined on K , values in $\pi^2(Y)$, denoted by $d^2(f, g)$. Now, f and g are homotopic if and only if there exists on K a one-dimensional cocycle e , with coefficients in $\pi^2(Y)$, such that

$$d^2(f, g) = (e^1) \cup (d^2) + (e) \cup (e).$$

in this resolution of the cocycle d^2 the cocycle d^2 is the $d^2(f) = d^2(g)$, defined above. Each summand on the right side is a product of cochains. The symbol $\cup$ is used for a product in the sense of Alexander, based on an ordering of the vertices of K ; in this product, the product of two elements of $\pi^2(Y)$ is the appropriate element of $\pi^2(Y)$ as defined by J. H. C. Whitehead [Ann. of Math. (2) 42, 400-428 (1945); these Rev. 2, 323]. The definition of the second summand is somewhat involved, and depends among other things on the decomposition of the group $\pi^2(Y)$ into its direct factors. The notation $(e) \cup (e)$ merely emphasises the dependence of this term upon the homology class only of the chosen cocycle e .
J. L. Zippin (Brooklyn, N. Y.).

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JLZ

Source: Mathematical Reviews,

Vol. 10, No. 1.

POSTNIKOV, M. M.

Postnikov, M. M. Homology invariants of continuous mappings. Doklady Akad. Nauk SSSR (N.S.) 66, 161-164 (1949). (Russian)

The theory of obstructions to extensions and homotopies of continuous mappings for the case of mappings of complexes into a space Y which is assumed to be simple in all dimensions has been developed by several authors [e.g., S. Eilenberg, Ann. of Math. (2) 41, 231-251 (1940); these Rev. 1, 222]. This note gives a brief outline of how such a theory could be developed in case the assumption that Y is simple is removed. It is then necessary to use cohomology groups with local coefficients in the sense of Steenrod [Ann. of Math. (2) 44, 610-627 (1943); these Rev. 5, 104]. Moreover, in this case the fundamental group may be non-Abelian, and hence cannot be used as a coefficient group for cohomology. To get around this difficulty, the author introduces 1-dimensional cochains with coefficients in a non-Abelian group as was done by H. Robbins [Trans. Amer. Math. Soc. 49, 308-324 (1941), in particular, pp. 323-324; these Rev. 3, 141]. The author does not consider the question as to whether the 1-dimensional cohomology group thus defined is a topological invariant of a complex or not. [Reviewers' note: obstructions with coefficients in a local system of groups have previously been considered by A. Komatsu [Jap. J. Math. 17, 201-228 (1941); these Rev. 7, 470].] R. H. Fox and W. S. Massey (Princeton, N. J.).

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Source: Mathematical Reviews, 1950 Vol. 11 No. 6

Postnikov, M. M.

Postnikov, M. M. Classification of the continuous mappings of an arbitrary n -dimensional polyhedron into a connected topological space which is aspherical in dimensions greater than unity and less than n . Doklady Akad. Nauk SSSR (N.S.) 67, 427-436 (1949). (Russian)

Let K be an n -dimensional complex, and Y an arcwise connected topological space whose homotopy groups $\pi_q(Y)$ are trivial for $1 < q < n$. Using the methods outlined in a previous note [see the preceding review], the author gives necessary and sufficient conditions that two maps $f, g: K \rightarrow Y$ be homotopic. Essential use is made of the invariant cohomology class $k^{n+1} \in H^{n+1}[\pi_1(Y), \pi_n(Y)]$ introduced by Eilenberg and MacLane [Proc. Nat. Acad. Sci. U. S. A. 32, 277-280 (1946); Trans. Amer. Math. Soc. 65, 49-99 (1949); these Rev. 8, 398; 11, 379]. No proofs are given. [Reviewers' note: this homotopy classification problem has also been solved by P. Olum, see Bull. Amer. Math. Soc. 53, 1132 (1947). The case in which the group $\pi_1(Y)$ acts trivially on $\pi_n(Y)$ has been treated by Hu [see the following review].]

R. H. Fox and W. S. Massey (Princeton, N. J.).

Source: Mathematical Reviews, 1950 Vol 11 No. 6

POSTNIKOV, M. M.

"Classification of Mappings of an $(n-1)$ -Complex in an $(n-1)$ -Connected Space," Dokl. AN SSSR, 71, pp. 1027-28, 1950

POSTNIKOV, M. M.

"Homotopical Theory of Continuous Reflections," Usp. Mat. Nauk Vol. 6 No. 4 (44),
pp 193-220, 1951.

U-1635, 16 Jan 52

POSTNIKOV, M.M.

Postnikov, M. M. Determination of the homology groups of a space by means of the homotopy invariants. Doklady Akad. Nauk SSSR (N.S.) 76, 359-362 (1951). (Russian)

The object of this note is to give a set of invariants which, together with the homotopy groups of an (arcwise-connected) space X , determine its singular homology groups.

The author defines a sequence of abstract cell-complexes, $K_1, K_2, \dots, K_n, \dots$, with $K_1 = K(\pi_1(X))$, in the sense of Eilenberg-MacLane, and a sequence of "characteristic" cocycles $k_1, k_2, \dots, k_n, \dots, k_n \in Z^{n+1}(K_n, \pi_{n+1}(X))$, such that K_{n+1} is, in a complicated but definite sense, the augmentation of K_n by k_n (in fact, $K_n = K^{n+1} \subset K^{n+1}$, K^n being the n -section of the cell-complex K). The author also defines "normal" singular simplexes, generalizations of the singular simplexes of the Eilenberg-MacLane complex $S_1(X)$ (the latter consisting of maps $T: \sigma \rightarrow X$ sending all the vertices of σ into the base point of X), and asserts (i) that the natural embedding of the normal singular complex $N(X)$ in the singular complex $S(X)$ is an equivalence, so that these complexes have isomorphic homology groups, and (ii) that the limit complex of the sequence $K_1, K_2, \dots, K_n, \dots$ is, in a precise sense, isomorphic to $N(X)$. Thus the homotopy groups of X , together with the cocycles $k_1, k_2, \dots, k_n, \dots$, determine the singular homology groups of X . Proofs of these assertions are not given.

P. J. Hilton.

Source: Mathematical Reviews,

Vol 13 No. 4

POSTNIKOV, M. M.

Postnikov, M. M. On the homotopy type of polyhedra. Doklady Akad. Nauk SSSR (N.S.) 76, 789-791 (1951) (Russian)

The author uses the results of a previous paper [cf. the preceding review; this paper will be referred to henceforth as P1] to obtain complete systems of invariants of homotopy type and n -type of a CW-complex, which he calls a polyhedron [for definitions of CW-complex, n -type, see J. H. C. Whitehead, Bull. Amer. Math. Soc. 55, 213-245 (1949); these Rev. 11, 48].

The author introduced in P1 the natural system $K_1, K_2, \dots, K_n, \dots; k_1, k_2, \dots, k_n, \dots$ of a space X . Such a system may be defined purely algebraically in terms of a sequence of groups $G_1, G_2, \dots, G_n, \dots$, in which $G_n, n \geq 2$, is an additive abelian group admitting G_1 as a group of operators. In this paper the author proves the following theorems:

- (1) Every (arcwise-connected) space dominated by a polyhedron is of the same homotopy type as some polyhedron.
- (2) Every system $(K_1, K_2, \dots, K_n, \dots; k_1, k_2, \dots, k_n, \dots)$ is, in a precise sense, n -isomorphic ($1 \leq n \leq \infty$) to the natural system of some n -dimensional polyhedron.
- (3) The n -types ($1 \leq n \leq \infty$) of two polyhedra coincide if and only if the natural systems of these polyhedra are n -isomorphic. (1) is an immediate consequence of a result due to J. B. Gieyer [Ann. of Math. (2) 51, 178-191 (1950); these Rev. 11, 379]. (2) and (3) are deduced from the results of S. MacLane and J. H. C. Whitehead on 3-type [Proc. Nat. Acad. Sci. U. S. A. 36, 41-48 (1950); these Rev. 11, 430].

Source: Mathematical Reviews,

Vol.

No.

POSTNIKOV, M. M.

Postnikov, M. M. On the classification of continuous mappings. Doklady Akad. Nauk SSSR (N.S.) 79, 573-576 (1951). (Russian)

In this note the author extends his application of the "natural system" of a space [cf. two previous reviews; the former will be referred to as P1.] to solve the homotopy classification problem for maps of a polyhedron P into an arcwise-connected space X . In this note, "polyhedron" is to be taken as meaning "locally-finite simplicial polyhedron", although the author states that his results may easily be extended to CW-complexes.

Given a natural system of groups $(G_1, G_2, \dots, G_n, \dots)$ and cohomology classes $(k_1, k_2, \dots, k_n, \dots)$, the author defines a "cycloid" over the system (or, as we would say, a cocycloid) as a system $(C^1, \dots, C^n, \dots)$ where C^n is a π -cochain of P over G_n . Here C^n is actually a cocycle and the condition that a "chainoid" be a cycloid involves the k_r . A very complicated condition is then given to describe when two cycloids shall be called "homologous". A "normal" mapping, f , of P into X is one such that its restriction to a π -simplex of P determines a normal singular n -simplex of X (cf. P1). Any mapping of P into X is homotopic to a normal mapping, and it is shown that any normal mapping of P into X determines a cycloid of P over the natural system of X . Then the author asserts (i) that any cycloid of P over the natural system of X is that determined by some normal map of P into X , and (ii) that two normal maps of P into X are homotopic if and only if the cycloids they determine are homologous. It is also stated that if $\dim P = n+1$, and $\pi_r(X) = 0$, $1 \leq r < n$, then the factor k_n may be described explicitly. The paper does not contain proofs.

P. J. Hilton (Manchester).

Source: Mathematical Reviews,

Vol. 13 No. 4

STEENROD, Norman Earl, 1910- [author]; POSTNIKOV, M.M. [translator].

[Topology of fibre bundles] Topologiya kosykh proizvedenii. Perevod s
angliiskogo M.M. Postnikova. Moskva, Izd-vo inostrannoi lit-ry, 1953.
274 p. (MLA 6:9)
(Topology)

POSTNIKOV, M. M.

Analysis

Dissertation:-- "Studies on the Homotopic Theory of Discontinuous Representations."
Dr Phys-Math Sci, Mathematics Inst imeni V. A. Steklov, Acad Sci USSR, Oct-Dec 1953.
/ Summary given, / (Vestnik Akademii Nauk -- Moscow, Mar 54).

SO: SUM 213, 20 Sep 1954

Postnikov, M.M.

USSR

Postnikov, M. M. Definite families of functions and algebras without divisors of zero over the field of real numbers. *Uspehi Mat. Nauk* (N.S.) 9, no. 2(60), 67-104 (1954). (Russian)

This is an article of expository character. A definite family of functions consists of n functions f_i of $r+s$ variables $x_1, \dots, x_r, y_1, \dots, y_s$, such that (1) the f_i are odd in the x_i and also in the y_i , and (2) the f_i vanish simultaneously only if either all the x_i or all the y_i vanish. The coordinates of the product element $x \cdot y$ in an algebra (over the reals) without zero divisors are such functions (bilinear, with $n=r=s$). After a brief enumeration of the various topological and algebraic approaches to this question, the author describes in §1 the present state of knowledge, in particular, Hopf's condition: all binomial coefficients C_{n-k}^k with $n-r < k < s$ are even (with the consequence that for $n=r=s$ the number n must be a power of two) [cf. Comment. Math. Helv. 13, 219-239 (1941); MR 3, 61; also Stiefel, *ibid.* 13, 201-218 (1941); MR 3, 61], and F. Behrend's upper estimates [Compositio Math. 7, 1-19 (1939); MR 1, 36]. §2 develops Hopf's proofs (consideration of induced maps of projective spaces). In the course of this, the author gives an

$T = R^n$

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(Coxeter)

Pastukov, M.M.

elementary development of the theory of the homology ring of a (polyhedral) manifold and of Hopf's Umkehrungs-homomorphisms, coefficients mod 2 (with some of the finer approximation theorems not proved), §3 presents Behrend's proof (by algebraic geometry, valid in all formally-real fields). It contains a description of the necessary basic concepts of algebraic geometry (in particular that of multiple point of a zero-dimensional algebraic manifold and Bézout's theorem).

H. Samelson (Ann Arbor, Mich.).

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Row

POSTNIKOV, M. M.

USSR/Mathematics - Publications

Card 1/1 Pub. 86 - 34/37

Authors : Postnikov, M. M., Dr. Phys.-Math. Sci.

Title : Popular lessons in mathematics

Periodical : Priroda 43/10 122-124, Oct 1954

Abstract : This is a review of a serial entitled, "Popular Lessons in Mathematics", issues 1 to 12, published by the State Publishing Office for Technical-Theoretical Literature, 1951-1954. In describing the various sections of the work the names of the authors of each are given. Some shortcomings are found in the work but it is considered to be of a helpful nature to amateurs. Twelve Russian references (no dates).

Institution : ...

Submitted : ...

POSTNIKOV, M.M.; PETROVSKIY, I.G., akademik, redaktor; NIKOL'SKIY, S.M., professor, redaktor; RYVKIN, A.Z., redaktor; GRAKOVA, Ye.D., tekhnicheskii redaktor

[Investigation on the homotopic theory of continuous mappings. Part 1. Algebraic theory of systems. Part 2. Natural systems and the homotopic type.] Issledovaniia po gomotopicheskoi teorii nepreryvnykh otobrazhenii. I. Algebraicheskaiia teoriia sistem. II. Natural'naiia sistema i gomotopicheskii tip. Moskva, Izd-vo Akademii nauk SSSR, 1955. 158 p. (Akademiia nauk SSSR. Matematicheskii institut. Trudy, vol. 46) (MLRA 8:9)
(Conformal mapping)

POSTNIKOV, M.M. doktor fiziko-matematicheskikh nauk (Moskva)

Story about the line. ("What is a line?" A.S.Parkhomenko.

Reviewed by M.M.Postnikov). Priroda 44 no.5:122-124 My '55.

(MIRA 8:7)

(Geometry, Analytic) (Parkhomenko, A.S.)

Postnikov, M.M.

44-1-262

TRANSLATION FROM: Referativnyy zhurnal, Matematika, 1957, Nr. 1,
p. 38 (USSR)

AUTHOR: Postnikov, M.M.

TITLE: Algebraic Methods of Homotopical Topology
(Algebraicheskiye metody gomotopicheskoy topologii)

PERIODICAL: Tr. 3-go Vses. matem. s"yezda, 2, Moscow, AN SSSR,
1956, pp 54-55

ABSTRACT: The author's concept of a natural system is
examined and several applications of this concept
are pointed out.

Card 1/1

SUBJECT	USSR/MATHEMATICS/Topology	CARD 1/1	PG - 56
AUTHOR	POSTNIKOV M.M.		
TITLE	The theory of homology of the smooth manifolds and their generalizations.		
PERIODICAL	Uspechi mat. Nauk <u>11</u> , No.1, 115-166 (1956) reviewed 6/1956		

The author gives a very detailed introduction in that part of the theory of Leray (J.Math.pur.appl., Paris IX.S. 29, 1-139 (1950)) which relates to the cohomology ring of a local-compact space. The principal notion is the "couverture" which the author introduces as a generalization of the algebra of the outer differential forms of a differentiable manifold (compare also Fâry, Bull.Soc.math.France 82, 97-135 (1954)). The essential part of the paper consists in a complete accomplishment of the proof of uniqueness for the cohomology ring with compact carriers of a local-compact space which was sketched by Fâry (C.r.Acad.Sci., Paris 237, 552-554 (1953)).

POSTNIKOV, M. M.

EFW

Postnikov, M. M. Squares of classes of contrahomologies.

Akad. Nauk. SSSR. Izv. Akad. Nauk. SSSR. Mat. Nauk.

Razmadze 22, 1956, 127-134. Russian.

This is an expository article (containing part of the author's 1949 candidate's dissertation) on the Steenrod $\cup$ -products and their applications. Let X be an $(n-1)$ -connected space; the author describes a problem relating to the space X^k as a first-stage problem (there are zero-stage problems; if it depends only on $\pi_q(X)$, $\pi_{q+1}(X)$ and the Eilenberg-MacLane invariant k belonging to $H^{n+2}(K(\pi_q(X), n), \pi_{q+1}(X))$. Thus, for example, the determination of $H^{n+1}(X)$ and the homotopy classification of maps of $(n+1)$ -dimensional polyhedra into X are first-stage problems. The author regards a first-stage problem as virtually solved when k is given in explicit form by means of Steenrod operations; this is achieved in the final section.

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Postnikov, M. M

The paper contains a detailed account (sections 1, 2 and 5) of $\cup$ -products in semisimplicial complexes. In section 4 group pairings and heteromorphisms are discussed. A group pairing of G to H is a map $\theta: G \times G \rightarrow H$ such that $\theta(g_1, g_2) = \theta(g_2, g_1)$ and $\theta(g, g_1 + g_2) = \theta(g, g_1) + \theta(g, g_2)$. It is dyadic if $2\theta = 0$. A heteromorphism is a map $\eta: G \rightarrow H$ such that $\eta(g) = \eta(-g)$ and $\eta(g_1 + g_2 + g_3) + \eta(g_2) + \eta(g_3) = \eta(g_1 + g_2) + \eta(g_3) + \eta(g_1) + \eta(g_2) + \eta(g_3)$ [cf. Eilenberg and Mac Lane, Ann. of Math. (2) 60 (1954), 49-139; MR 16, 391]. To a dyadic pairing θ belongs a (dyadic) homomorphism η given by $\eta(g) = \theta(g, g)$ and to a heteromorphism η belongs a pairing θ given by $\theta(g_1, g_2) = \eta(g_1) + \eta(g_2) - \eta(g_1 + g_2)$. (All groups are abelian.) The Pontryagin heteromorphism is the map $\eta: \pi_n(X) \rightarrow \pi_{n-1}(X)$ defined by composition with a generator of $\pi_{n+1}(\mathbb{C}P^n)$, $n \geq 1$.

If x^p is an integer valued cochain of K , then we write $x^p \equiv 0 \pmod{a}$ if, for each $\sigma \in K$, $x^p(\sigma)$ is divisible by the integer a . Let

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I-FW

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Postnikov, M. M.

$$\omega_i(x^p) = x^p \cup_{p-i} x^p + x^p \cup_{p-i+1} \delta x^p.$$

Then $\omega_i(x^p) \equiv 0 \pmod{a}$ if $x^p \equiv 0 \pmod{a}$, where

$$a = \begin{cases} 2a, & \text{if } a \text{ is even and if either } i \text{ is odd, or } i \geq p; \\ a, & \text{if } a \text{ is odd and if either } i \text{ is odd, or } i \geq p; \\ 2, & \text{if } a \text{ is even and } i \text{ is even and } i < p; \\ 1, & \text{if } a \text{ is odd and } i \text{ is even and } i < p. \end{cases}$$

Moreover $\delta x^p \equiv 0 \pmod{a}$ if $\delta \omega_i(x^p) \equiv 0 \pmod{a}$, so that we obtain an operation

$$Kv^i: H^p(K, L; \text{mod } a) \rightarrow H^{p+i}(K, L; \text{mod } a),$$

called by the author the Pontryagin square. This may be further generalized to yield an operation

$$Kv_\eta^i: H^p(K, L; G) \rightarrow H^{p+i}(K, L; H)$$

associated with an arbitrary heteromorphism $\eta: G \rightarrow H$. If u is the fundamental class $\epsilon H^n(K(\pi_a(X); n); \pi_a(X))$ and if η is the Pontryagin heteromorphism, then $\epsilon = Kv_\eta^i u$.

Astonishingly, the article contains no reference to Steenrod's fundamental paper [Ann. of Math. (2) 48 (1947), 290-320; MR 9, 154]. A happier innovation is the use of 'contrahomology' for 'cohomology', which has much to recommend it.

P. J. Hilton (Manchester).

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LEW

3/3

POSTNIKOV, M.M.

Classification of notinuous mappings of a n -dimensional polyhedron
into a connected topological space which is nonspherical in dimen-
sions greater than one and less than n . Trudy Mat.inst.AN Gruz.SSR
22:165-202 '56. (MIRA 10:3)

(Polyhedra) (Topology)

POSTNIKOV, M. M.

Postnikov, M. M. Investigations in homotopy theory of
continuous mappings. III. General theorems of
extension and classification. Mat. Sb. No. 40 62;

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L-F 1

1. M. M. Postnikov, *Investigations in homotopy theory of
continuous mappings. III. General theorems of
extension and classification*, Mat. Sb. No. 40 62;

Postnikov, M.M.

In the second part, the problems are solved. As in the 1951 paper, the basic notion in the solution is that of the cocycle associated with a normal map. The natural system of X may be understood as a sequence of fibre projections

$$\cdots \rightarrow X_{p+1} \xrightarrow{f_p} X_p \xrightarrow{f_{p-1}} X_{p-1} \rightarrow \cdots$$

where X_p is a c.s.s. complex obtained from M by 'killing off' π_i , $i > p$, and f_p is the projection induced by the Postnikov invariant $k_p \in Z^{p+1}(X_p; \pi_{p+1}(X))$. A map $\mu_p: P \rightarrow X_p$ such that $\mu_p^* k_p$ cobounds may be lifted into X_{p+1} . Moreover an equation

$$(E_p) \quad \mu_p^* k_p + \partial \mu_{p+1} = 0, \quad \mu_{p+1} \in C^{p+1}(P; \pi_{p+1}(X))$$

prescribes a lifting map $\mu_{p+1}: P \rightarrow X_{p+1}$. Then a cocycle is a sequence $(\mu_p, \mu_{p+1}, \dots)$, $\mu_p \in C^p(P; \pi_p(X))$, such that μ_p is a cocycle and $\mu_{p+1}^* k_p = \partial \mu_{p+1}$.

POSTNIKOV, M. A.

4/3

3

cocycloid satisfies (E_{p-1}) ; and two normal maps of P are homotopic if and only if the associated cocycloids are cohomologous (in a natural sense).

The same problems are treated (using Postnikov systems but from the computational viewpoint) in the paper reviewed above.

P. J. Hilton (Manchester).

Im

POSTNIKOV, M. M.

"Homotopy Resolvents and their Applications."

paper submitted at International Congress Mathematicians, Edinburgh, 14 - 21 Aug
58.

BOITYANSKIY, V.G., red.; DYNKINA, Ye.B., red.; POSTNIKOV, M.M., red.;
SOLOMENTSEV, Ye.D., red.; IOVLIVA, N.A., tekhn.red.

[Fiber spaces and their applications; collection of translations]
Rassloennye prostranstva i ikh prilozhenia; sbornik perevodov.
Moskva, Izd-vo inostr.lit-ry, 1958. 460 p. (MIRA 12:1)
(Topology)

AUTHOR: Postnikov, M.M.

20-118-6-9/43

TITLE: ~~Cubic Resolvents~~ (Kubicheskiye rezol'venty)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 118, Nr 6, pp 1085-1087 (USSR)

ABSTRACT: The author joins a paper of D.M.Kan [Ref 2] and develops a theory which can be comprehended as a cubic analogue of his own theory of the "homotopic resolvents" established some years ago [Ref 1]. A sequence of resolvents is a sequence $K_1, K_2, \dots$ of cubic complexes if $K_1 = Q(G_1, 1)$, where G_1 is a multiplicative group, and if for every $i > 1$ the complex K_i is a certain i -extension of K_{i-1} . Since $K_{i-1}^i \subset K_i^i$, therewith a limit complex K is defined for which $K^i = K_i^i$. The system $\{G_i, k_i\}$ of the groups G_i and the factors k_i appearing by the mentioned i -extension, is denoted as a cubic resolvent of K . The strong definition of this notion is not possible in this abstract.

The author asserts that the cubic resolvents introduced in this way, are very suitable for the treatment of different fiberings.

Card 1/2

Cubic Resolvents

20-118-6-9/43

In further publications he intends to treat questions concerning this domain.
There are 2 references, 1 of which is Soviet, 1 American.

ASSOCIATION: Matematicheskii institut imeni V.A. Steklova Akademii nauk SSSR
(Mathematical Institute imeni V.A. Steklov Academy of Sciences, USSR)

PRESENTED: September 14, 1957, by I.M. Vinogradov, Academician

SUBMITTED: September 12, 1957

Card 2/2

AUTHOR: Postnikov, M.M.

20-119-2-3/60

TITLE: Limit Complexes of Cubic Resolvents (Predel'nyye kompleksy
kubicheskikh rezol'vent)
SSSR

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 2, pp 207-210 (USSR)

ABSTRACT: The present paper is a continuation of the recently published paper of the author on cubic resolvents [Ref 1]. The author gives an inner characteristic of the cubic complexes which are limit complexes of cubic resolvents. As an application the author constructs cubic resolvents of arbitrary topological spaces. Considering the resolvents of loop spaces, the author points to an incorrect assertion (theorem 5) in the paper of Aoki, Honma, Kaneko [Ref 4]. Principal result of the present paper:
Theorem: A cubic complex K is isomorphic to the limit complex of a cubic resolvent then and only then if it is an E-complex (according to Kan [Ref 2]) containing only one zerodimensional cube and if two congruent but not identical cubes of this complex are non-homotopic.
There are 3 references, 1 of which is Soviet, 1 American, 1 Japanese.

Card 1/2

POSTNIKOV, M.M.

Limit complexes of cubic resolvents. Dokl. AN SSSR 119 no.2:207-210
Mr '58. (MIRA 11:5)

1. Matematicheskii institut im. V.A. Steklova AN SSSR. Predstavleno
akademikom I.M. Vinogradovym.
(Topology)

VISHIK, M.I.; NOVIKOV, S.P.; POSTNIKOV, M.M.

Meetings of the Leningrad Mathematical Society. Usp. mat. nauk
19 no.6:229-236 N-D '64 (MIRA 18:2)

Gorkiy Mathematical Seminar on Homotopic Topology. Ibid.:237-238

POSTNIKOV, Mikhail Mikhaylovich; KOPYLOVA, A.N., red.; AKSEL'ROD,
I.Sh., tekhn. red.

[Magic squares] Magicheskie kvadraty. Moskva, Izd-vo
"Nauka," 1964. 84 p. (MIRA 17:4)

POSTNIKOV, Mikhail Mikhaylovich; BAYEVA, A.P., red.; AKSEL'ROD, I.Sh.,
tekh. red.

[Galois theory]Teoriia Galua. Moskva, Fizmatgiz, 1963. 218 p.
(MIRA 16:4)
(Fields, Algebraic)

KAPLANSKIY, Irving (1917-); KLEYNERMAN, G.I.[translator];
POSTNIKOV, M.M., red.

[Introduction to differential algebra] Vvedenie v differentsial'nuiu algebru. Pod red. M.M.Postnikova. Moskva, Izd-vo inostr. lit-ry, 1959. 85 p. (MIRA 15:7)
(Algebra)

POSTNIKOV, M. M.

"Axiomatic definitions of cohomology groups"

report submitted at the Intl Conf of Mathematics, Stockholm, Sweden,
15-22 Aug 62

POSTNIKOV, M.M.

Equivalence of cohomology theories. Trudy Mat.inst. 64:165-172
'61. (MIRA 15:3)

(Homology theory) (Algebraic topology)

06463
S/020/60/133/004/032/040 XX
C111/C333

16.2200

AUTHORS: Boltyanskiy, V.G., Postnikov, M.M.

TITLE: On Principal Notions of Algebraic Topology. Axiomatic Definition of Cohomology Groups

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4,
pp. 745 - 747

TEXT: The objects of a category $\mathcal{C}_0$ are assumed to be topological spaces with marked points, the mappings of $\mathcal{C}_0$ are assumed to be continuous and to transfer marked points into marked points. Let 0_x be a marked point of the space X . Let IX be the topological product $[0,1] \times X$ in which $[0,1] \times 0_x$ is drawn together into the point $0 = 0_{1X}$. Let the mapping $X \rightarrow IX$ defined by $x \rightarrow (t, x)$ be denoted by q_t . For every $f: X \rightarrow Y$ let If denote the mapping $IX \rightarrow IY$ defined by $q_t(x) \rightarrow q_t(f(x))$.

Card 1/4

On Principal Notions of Algebraic Topology.
Axiomatic Definition of Cohomology Groups

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S/020/60/133/004/032/C40 XX
C111/C333

The sequence $\dots X_{i-1} \xrightarrow{f_{i-1}} X_i \xrightarrow{f_i} X_{i+1} \rightarrow \dots$ is called exact, if for every i the image $\text{Im } f_{i-1} = f_{i-1}(X_{i-1})$ coincides with the kernel $\text{Ker } f_i = f_i^{-1}(0)$ of f_i . The exact sequence $X \xrightarrow{f} Y \xrightarrow{g} Z \rightarrow 0$ is called cofibring (with respect to a subcategory $\mathcal{L}$ of $\mathcal{C}_0$) if for every space Q from $\mathcal{L}$ and arbitrary $\Lambda: IX \rightarrow Q$, $\mu: Y \rightarrow Q$ from $\mathcal{C}_0$, for which $\Lambda \circ q_0 = \mu \circ f$, there exists a mapping $M: IX \rightarrow Q$ such that $\mu = M \circ q_0$ and $\Lambda = M \circ I f$. X is called cobasis, Y the space of the cofibring, Z the cofibre. Let $\mathcal{L} = \mathcal{C}_0$. The subcategory $\mathcal{C}$ of $\mathcal{C}_0$ is called admissible, if 1. $\mathcal{C}$ contains the zero-dimensional sphere S^0 , 2. $\mathcal{C}$ with X also contains IX and $q_0, q_1: X \rightarrow IX$; furthermore if $\mathcal{C}$ with every mapping f contains $I f$ too. 3. If in $(*)$ $X \xrightarrow{f} Y \xrightarrow{g} Z$ X, Y belong to $\mathcal{C}$, also Z is to belong to $\mathcal{C}$; if in $(*)$ X, Z belong to $\mathcal{C}$, then also Y is to belong to $\mathcal{C}$; if X, Y, Z belong

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86463

On Principal Notions of Algebraic Topology.
Axiomatic Definition of Cohomology Groups

S/020/60/133/004/032/040 XX
C111/C333

to $\mathcal{C}$, then also the mappings f, g are to belong to $\mathcal{C}$.
Let $\mathcal{C}$ be admissible and fixed. Spaces and mappings of $\mathcal{C}$ then are called admissible too. The cofibrings $(*)$ with admissible X, Y, Z are called admissible too. Admissible mappings $f_0, f_i : X \rightarrow Y$ are called homotopic (in $\mathcal{C}$), if there exists an $F : IX \rightarrow Y$ such that $F \circ q_i = f_i, i = 0, 1$.

Let to every integer n a contravariant functor H^n be given which is defined in $\mathcal{C}$ and attains values in the category of the abelian groups and their homomorphisms. Then three functors $H_I^n, H_{II}^n, H_{III}^n$ are defined on the category of all admissible cofibrings (and of their admissible mappings). H_I^n makes correspond the group $H^n(X)$ to the cofibring $(*)$, $H_{III}^{(n)}$ the group $H^n(Z)$.

The functors H^n form the group theory of the cohomologies, if for every n a natural transformation δ^n from H_I^n into H_{III}^{n+1} is given and if the following axioms are satisfied:

¹ H . The groups $H^n(S^0)$ are trivial for $n \neq 0$.
Card 3/4

On Principal Notions of Algebraic Topology.
Axiomatic Definition of Cohomology Groups

86463

S/020/60/133/004/032/040 XX
C111/C333

2^H . For arbitrary admissible mappings $f, g : X \rightarrow Y$ which are mutually homotopic the homomorphisms $H^n(f), H^n(g) : H^n(Y) \rightarrow H^n(X)$ are identical.

3^H . For every admissible cofibring $X \xrightarrow{f} Y \xrightarrow{g} Z$ it holds the rigorous sequence

$$\dots \rightarrow H^n(Z) \xrightarrow{H^n(g)} H^n(Y) \xrightarrow{H^n(f)} H^n(X) \xrightarrow{\delta^n} H^{n+1}(Z) \rightarrow \dots$$

$H^0(S^0)$ is called group of coefficients of the theory considered.
The same axioms (correspondingly changed) describe the homology groups.
There are 2 American references.

ASSOCIATION: Matematicheskii institut imeni V.A. Steklova Akademii nauk SSSR
(Mathematical Institute imeni V.A. Steklov of the Academy of
Sciences USSR)

PRESENTED: May 10, 1960, by I.M. Vinogradov, Academician

SUBMITTED: May 9, 1960

Card 4/4

KARTAN. A. [Cartan, Henri Paul]; EILENBERG, S.; SHUL'GEYFER, Ye.G.
[translator]; POSTNIKOV, M.M., red.

[Homological algebra] Gomologicheskaya algebra. Moskva, Izd-vo
inostr.lit-ry, 1960. 510 p. (MIRA 13:12)
(Algebra, Abstract)

BOLTJANSKIY, V.G.; POSTNIKOV, M.M.

Basic conceptions of algebraic topology. Axiomatic definition
of cohomology groups. Dokl.AN SSSR 133 no.4:745-747
Ag '60. (MIRA 13:7)

1. Matematicheskiy institut im. V.A.Steklova Akademii nauk
SSSR. Predstavleno akademikom I.M.Vinogradovym.
(Algebraic topology)

L 4161-66
AM5026845

EVT(1) GW

BOOK EXPLOITATION

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34
B+1

Postnikov, Mikhail Mikhaylovich

Geodetic variation theory (Variatsionnaya teoriya geodezicheskikh), Moscow, Izd-vo "Nauka", 1965, 248 p. 4,600 copies printed.

TOPIC TAGS: variational calculus, geodesy, topology, mathematic space

PURPOSE AND COVERAGE: This book is based on lectures read by the author in the Summer Mathematics School of the Mathematics Institute of the Ukrainian Soviet Socialist Republic in 1963. The book presents the basis of variational calculus known as the Morse theory, and it explains the "topological aspect" and "analytical aspect" of the Morse theory. Also viewed are problems of fixed end-points and problems of mobile end-points. Proof of the Bott theorem and some problems directly related to it are covered.

TABLE OF CONTENTS (abridged):

Foreword	--	5
Ch. I. Smooth manifolds	--	9
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Ch. III. Romanov space	--	106
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UDC: 513.838 517.2 P63

L 4161-66
AM5026845

Ch. IV. Geodetic variation property -- 137
Supplement

Focal points -- 200

Ch. V. Reduction theorem -- 223

SUB CODE: MA, ES

SUBMITTED: 28Apr65

NO REF SOV: 000

OTHER: 000

my Dr
Card 2/2

GUMENIUK, I.G.; MIROSNIKOV, A.N.; POSTNIKOV, M.P.

Breeding calves on the base of rations with a high silage content. *Analele agric zooteh* 17 no.6:108-112 N-D'63.

POSTNIKOV, M.V. dotsent, kand. tekhn. nauk; GUSHCHIN, G.N., starshiy
prepodavatel'

Determining the temperature of measuring wires from semiconductor
microthermal resistance. Izv. vys. ucheb. zav.; geod. i aerof. no.
4:7-10 '64. (MIRA 18:2)

1. Tomskiy inzhenerno-stroitel'nyy institut.

POSTNIKOV, M.V.

Using the method of geodetic intersections in plotting a planned working basis for surveying open cut mines and geological prospecting operations. Izv.TPI 93:234-238 '58.

(MIRA 13:5)

(Mine surveying)

SOV/35-59-9-7502

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, p 96 (USSR)

AUTHOR: Postnikov, M.V.

TITLE: The Analysis and Diagrams of the Construction of a Mining Systematic Reference Network by the Method of Geodetical Intersections

PERIODICAL: Sb. nauch. trudov Tomskogo inzh-stroita, 1958, Vol 4, pp 85 - 96

ABSTRACT: The construction of a triangulation network by the method of geodetical intersections is characterized by the fact that the measurement of the angles is carried out not at all points of the network. A part of the points, called auxiliary points (up to 30% of all points), are determined by intersections from the points of the traverse line. This allows one to use as auxiliary points any conveniently situated local objects without it being necessary that from these points the visibility of the main points is assured. Thereby the choice of points of the network in the locality is considerably facilitated. The method of geodetical intersections allows the construction of a geodetical network for different purposes with a different number of directions towards the auxiliary points and at any their arrangement relative to the traverse line -(THREE DIAGRAMS) - with two, three or

Card 1/2

SOV/35-59-9-7502

The Analysis and Diagrams of the Construction of a Mining Systematic Reference Network by the Method of Geodetical Intersections

more figures (see Diagram). The comparison of the networks constructed by the method of geodetical intersections with a network having the same length, which consists of a chain of continuous equilateral triangles, shows that 1) the accuracy of reproducing the lengths of the lines, in the network carried out by the method of intersections grows with an increase in the number of figures in the bundles of intersections; for the network constructed according to diagram a the error in the reproduction of the length of the sides is by 15 - 20% greater than the corresponding error in the chain of triangles; for the network according to diagram $\odot$ the error is by 2 - 5% greater, and for the chain according to diagram b the accuracy is the same; 2) the accuracy of reproducing the directional angle of the side disposed in the center of the traverse is the same for all the diagrams of construction of the network; 3) the construction of the triangulation by the method of geodetical intersections lowers the expenditure for each point being determined by 20 - 30%; 4) the intersection method can be used for the construction of a working base for the survey of open-pit mining and for the geological prospecting work. In addition to this there is no longer a need to carry out linear measurements in difficult conditions indispensable when plotting a traverse. The accuracy of the base is twice as high as during the plotting of a traverse, while the cost is lower by 20 - 30%.

Card 2/2

K.K. Glazenap

SOV/35-59-9-7502

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1959, Nr 9, p 96 (USSR)

AUTHOR: Postnikov, M.V.

TITLE: The Analysis and Diagrams of the Construction of a Mining Systematic Reference Network by the Method of Geodetical Intersections

PERIODICAL: Sb. nauch. trudov Tomskogo inzh-stroit. in-ta, 1958, Vol 4, pp 85 - 96

ABSTRACT: The construction of a triangulation network by the method of geodetical intersections is characterized by the fact that the measurement of the angles is carried out not at all points of the network. A part of the points, called auxiliary points (up to 30% of all points), are determined by intersections from the points of the traverse line. This allows one to use as auxiliary points any conveniently situated local objects without it being necessary that from these points the visibility of the main points is assured. Thereby the choice of points of the network in the locality is considerably facilitated. The method of geodetical intersections allows the construction of a geodetical network for different purposes with a different number of directions towards the auxiliary points and at any their arrangement relative to the traverse line -(THREE DIAGRAMS) - with two, three or

Card 1/2

SOV/35-59-9-7502

The Analysis and Diagrams of the Construction of a Mining Systematic Reference Network by the Method of Geodetical Intersections

more figures (see Diagram). The comparison of the networks constructed by the method of geodetical intersections with a network having the same length, which consists of a chain of continuous equilateral triangles, shows that 1) the accuracy of reproducing the lengths of the lines, in the network carried out by the method of intersections grows with an increase in the number of figures in the bundles of intersections; for the network constructed according to diagram a the error in the reproduction of the length of the sides is by 15 - 20% greater than the corresponding error in the chain of triangles; for the network according to diagram $\odot$ the error is by 2 - 5% greater, and for the chain according to diagram b the accuracy is the same; 2) the accuracy of reproducing the directional angle of the side disposed in the center of the traverse is the same for all the diagrams of construction of the network; 3) the construction of the triangulation by the method of geodetical intersections lowers the expenditure for each point being determined by 20 - 30%; 4) the intersection method can be used for the construction of a working base for the survey of open-pit mining and for the geological prospecting work. In addition to this there is no longer a need to carry out linear measurements in difficult conditions indispensable when plotting a traverse. The accuracy of the base is twice as high as during the plotting of a traverse, while the cost is lower by 20 - 30%.

Card 2/2

K.K. Glazenap

POSTNIKOV, M.V.

POSTNIKOV, M.V.

Set of instruments for measuring lines and angles of Class III
and IV polygonometric paths. Sbor.nauch.trud.TISI 1:102-114 '56.
(MIRA 10:12)

(Surveying--Instruments)

POSTNIKOV, M.V.
POSTNIKOV, M.V.

Increasing precision in measuring lengths of lines in geodetic work.
Sbor.nauch.trud.TISI 2:64-76 '57. (MIRA 10:12)
(Surveying--Instruments)

POSTNIKOV, M. V.

Postnikov, M. V.

"The Construction of Mine Support Geodetic Networks Using the Method of Geodetic Intersections." Min Higher Education USSR. Tomsk Order of Labor Red Banner Polytechnic Inst imeni S. M. Kirov. Chair of Geodesy. Tomsk, 1955 (Dissertation for the degree of Candidate in Technical Science)

SO: Knizhnaya letopis' No. 27, 2 July 1955

POSTNIKOV, M.V.

Technique of intubation in endotracheal anesthesia.

Zdrav. Tadzh. 10 no.3:21-22 '64.

(MIRA 17:4)

1. Iz kafedry fakul'tetskoy khirurgii (byvshiy zaveduyushchiy kafedroy zasluzhennyy deyatel' nauki Tadzhikskoy SSR prof. Kh. D. Gadzhiyev) Tadzhikskogo gosudarstvennogo meditsinskogo instituta imeni Abuali ibn-Sino.

YERSHOV, B.; POSTNIKOV, N.

A book without a definite purpose ("Contemporary Soviet automobiles. N.A. Kuniaev. Reviewed by B. Ershov, N. Postnikov).
Avt.transp. 33 no.12:34-35 D '55. (MLRA 9:3)

1. Starshiye prepodavateli Moskovskogo instituta mekhanizatsii i
elektrifikatsii sel'skogo khozyaystva.
(Automobiles) (Kuniaev, N.A.)

POSTNIKOV, N,

BAULIN, M., kandidat tekhnicheskikh nauk, starshiy prepodavatel'; YERSHOV, B., prepodavatel'; POSTNIKOV, N., prepodavatel'; KOTENEV, M., prepodavatel'.

Aiding young automobile workers. "Automobile construction." V.I. Anokhin. Reviewed by M.Baulin, B.Ershov, N.Postnikov, M.Kotenev. Avt. transp.32 no.11:40-41 N '54. (MLRA 8:3)
(Automobiles--Design and construction)(Anokhin, V.I.)

POSTNIKOV, N.

Eshche raz o rekonstruktsii Moskovskogo uzla. [Once again on the reconstruction of Moscow railway junction]. (Sots. transport, 1931, no. 10, p. 40 - 62, sketches).
DLC: HE7.36

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassified.

UGORETS, I.I.; GLAZUNOV, A.A.; SYROMYATNIKOV, I.A.; KASHUNIN, I.S.; POSTNIKOV,
N.A.; RADTSIG, V.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; VASIL'YEV, A.A.;
KUVSHINSKIY, N.N.; BAPTIDANOV, L.N.; TARASOV, V.I.; KRIKUNCHIK, A.B.;
SHAPIRO, A.B.; BIBIKOV, V.V.; DVOSHIN, L.I.; KLINGOF, I.D.; KARPOV,
M.M.; USPENSKIY, B.S.; CHALIDZE, I.M.; BLOCH, Ya.A.; SHMOTKIN, I.S.

Iesif IAKevlevich Gumin; obituary. Elek.sta.26 no.12:58 D '55.
(Gumin, Iesif IAKovlevich, 1890-1955) (MIRA 9:4)

POSTNIKOV, N.A.

✓ Melting Hatfield manganese steel in an electric furnace
by using a high-carbon ferromanganese. N. A. Postnikov.
M. *Litetsk Proizvodstvo* 1953, No. 11, 28-9. *Methods of melt-*
ing this steel in one-ton arc furnace by using a 0% C ferro-
manganese are given. By a rapid melting in the bath and
by adding about 25% Fe-Mn in the bath, Mn losses are
reduced to 7%. J. D. Galt

2/

POSTNIKOV, N.A.

Smelting G13L steel in acid electric furnaces with high-carbon
ferromanganese. Lit.proizv. no.11:28-29 N '55. (MLRA 9:2)
(Steel—Electrometallurgy)

POSTNIKOV, N. A.

Postnikov, N. A. "The history of the Saki resort and its prospects of development",
Sbornik nauch. trudov kurorta Saki, Vol. IV, 1948, p. 5-14.

So: U-3261, 10 April 1953 (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

POSTNIKOV, N.A., inzh.

High-capacity district heating plant of the Moscow power system.
Teploenergetika 7 no.11:90-91 N '60. (MIRA 14:9)
(Moscow--Heating from central stations)

ACC NR: AP7007595

SOURCE CODE: UR/0104/66/000/00E/0095/0096

AUTHOR: Chuprakov, N. M.; Borovoy, A. A.; ~~Postnikov, N. A.~~; Malychev, A. A.;
Magidson, E. M.; Sin'chugov, F. I.; Zeylidzon, Ye. D.; Barchaninov, G. S.;
Yermolenko, V. M.; Vasil'yev, A. A.; Sokolov, N. I.; Ul'yanov, A. S.;
Fedoseyev, A. M.; Sarkisov, M. A.; Rokotyan, S. S.; Azar'yev, D. I.; Arson,
G. S.; Dubinskiy, L. A.; Zhulin, I. V.; Kolpakova, A. I.; Antoshin, N. N.
Krikunchik, A. B.; Kuchkin, M. D.; Preobrazhenskiy, N. Ye.; Reut, M. A.;
Kheyfits, M. E.; Sharov, A. N.; Yakub, Yu. A.; Gorbunov, N. I.; Shurmukhin,
V. A.; Beschinskiy, A. A.

ORG: none

TITLE: Boris Sergeyovich Uspenskiy (on his 60th birthday)

SOURCE: Elektricheskiye stantsii, no. 8, 1966, 95-96

TOPIC TAGS: hydroelectric power plant, electric engineering personnel.

SUB CODE: 10

ABSTRACT: B. S. Uspenskiy was born in June 1906. He graduated from the State Electric Machine Building Institute in 1928 as an electric installation engineer. He worked in the State Electro-Technical Trust for four years, then in the All-Union ElectroTechnical Union, where he planned power construction units. Plans which he made up at that time for the electrical portion of electrical stations and sub-stations are still being used. He was involved in planning and installation of the electrical portion of hydro-electric power stations and powerful pumping stations in the Moscow-Volga Canal. During the war, he was in charge in installation of the Krasnogorskaya Heat and Electric Power Station, the planning of the Urals Hydro-Electric Power Station and other projects. Ho

Card 1/2

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ACC NR: AP7007595

has been the author of thirty-three printed works, a great number of
reviews, etc. Orig. art. has: 1 figure. [JPRS: 38,330]

Card 2/2

GOLOV, G.S.; ASPEL', N.B.; POSTNIKOV, N.I.; RATNER, Ye.M.

Combining processes of catalytic reforming. Khim.i tekhn.topl.i
masel 7 no.9:8-13 S '62. (MIRA 15:8)

1. Lengiprogaz.

(Petroleum--Refining)

POSTNIKOV, N.I., inzh.

Using the free space under fractionating columns. Nov.tekh.
mont.i spets.rab.v stroi. 21 no.9:20 S '59.

(MIRA 12:11)

(Petroleum refineries--Equipment and supplies)

POSTNIKOV, N. M., Cand Tech Sci -- (diss) "Study of extracting and
scooping-out devices of ^{the} SKG-4 potato ^{planter} ~~planter~~." Len, 1957. 23 pp
(Min of Agriculture USSR), 130 copies (KL, 18-58, 100)

TORBEEV, Z.S.; POSTNIKOV, N.M.; TREYVAS, A.B., doktor sel'khoz.
nauk, prof., retsenzent; CHURMANOVA, V.V., tekhn. red.

[Potato planting machines; theory, design, and calculations]
Kartofeleposadochnye mashiny; teoriia, konstruktsiia i ras-
chet. Moskva, Mashgiz, 1963. 145 p. (MIRA 16:7)
(Planters (Agricultural machinery)) (Potatoes)

Postnikov, M. M. Classification of continuous mappings of $(n+1)$ -dimensional complex into a connected topological space which is aspherical in dimensions less than n . Doklady Akad. Nauk SSSR (N.S.) 71, 1027-1028 (1950). (Russian)

This note considers the homotopy classification problem for maps $\alpha: \pi_1(n+1)$ -dimensional complex K into a pathwise connected topological space Y which is $(n-1)$ -connected, $n \geq 2$, i.e., the homotopy groups $\pi_p(Y)$ are trivial if $p < n$. The case $n=2$ has been considered previously by the author [same Doklady (N.S.) 64, 461-462 (1949); these Rev. 10, 566] and Whitney [Ann. of Math. (2) 50, 270-284 (1949); these Rev. 1, 531]. Let $\pi: \pi_1(Y) \rightarrow \pi_{n+1}(Y)$ denote the homomorphism defined by composing a map $S \rightarrow Y$ which represents an element $\alpha \in \pi_1(Y)$ with an essential map $S^{n+1} \rightarrow Y$ to obtain a map $S^{n+1} \rightarrow Y$ which represents the element $\pi(\alpha) \in \pi_{n+1}(Y)$. Define a "multiplication" which associates with any two elements $\alpha, \beta \in \pi_1(Y)$ an element $\alpha \beta \in \pi_{n+1}(Y)$ so as to satisfy the following four conditions: $(\alpha + \beta)\gamma = \alpha\gamma + \beta\gamma$, $\alpha\beta = \beta\alpha$, $2\alpha\beta = 0$, and $\alpha\pi = \pi(\alpha)$. It may be shown that such a multiplication always exists. If one now applies the definitions of Steenrod [Ann. of Math. (2) 48, 290-320 (1947); these Rev. 9, 154], there are defined homomorphisms $Sq: H^p(K, \pi_1(Y)) \rightarrow H^{p+1}(K, \pi_{n+1}(Y))$. It may be shown that the homomorphisms thus defined are independent of the choice of the multiplication used.

Let $f, g: K \rightarrow Y$ be two maps which are n -homotopic, i.e., the partial maps $f|K^n$ and $g|K^n$ are homotopic (here K^n denotes the n -skeleton of K). Let $f', g': K \rightarrow Y$ be maps such that $f'|K^n = g'|K^n$; f' is homotopic to f , and g' is homotopic to g . Then the separation cocycle $d^{n+1}(f', g')$ is defined [see Eilenberg, Ann. of Math. (2) 41, 231-251 (1940), p. 237; these Rev. 1, 222]. Let $d^{n+1}(f', g')$ denote its cohomology class. The set of elements $d^{n+1}(f', g')$ for all possible choices of f' and g' satisfying the conditions stated above may be denoted by $C^{n+1}(f, g)$; it is a subset of the cohomology group $H^{n+1}(K, \pi_{n+1})$. It is known that the maps f and g are homotopic if and only if the set $C^{n+1}(f, g)$ contains the zero element of $H^{n+1}(K, \pi_{n+1})$. The author's main result is that $C^{n+1}(f, g)$ is a coset of the subgroup $Sq_{n+1}[H^{n+1}(K, \pi_n)]$. Since conditions are already known which enable one to decide whether or not two given maps $f, g: K \rightarrow Y$ are n -homotopic, this result enables one to give an enumeration of the homotopy classes of maps $K \rightarrow Y$. The author also states an analogous theorem about obstructions to extensions of continuous maps, and asserts that his main result is derived from this theorem on "extensions". No proofs are given.

R. H. Fox and W. S. Massey

POSTNIKOV, N.N.

EPSHTEYN, V.S.; POSTNIKOV, N.N., inzhener; EVENSON, I.M., tekhnicheskii
redaktor

"Krasnyi Vyborzhets" plant workers in the fight for technological
progress] Krasnovyborzhetsy v bor'be za tekhnicheskii progress.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, 1954. 64 p. (MLRA 8:4)
(Leningrad--Nonferrous metal industries)

$$I = i^2 R_{\text{eff}} = i^2 R_p / (1 + \beta^2)$$

ALKESEYEV, N.S.; BELIAYEV, A.P.; BUGAREV, L.A.; BUTOMO, D.G.; VASIL'YEV, Z.V.;
VERIGIN, V.N.; VOROB'YEV, G.M.; GAYLIT, A.A.; GOL'SHTEYN, P.M.;
GOKHSHEYN, M.B.; ZHOLOBOV, V.V.; ZEDIN, N.N.; IVANOV-SKOBLIKOV, N.I.;
KUTEPOV, Ya.V.; LANDIKHOV, A.D.; MARAYEV, S.Ye.; MILLER, L.Ye.;
OL'KHOV, N.P.; PERLIN, I.L.; POSTNIKOV, M.N.; ROZOV, M.N.; CHERNYAK, S.N.;
CHUPRAKOV, V.Ya.; TSEFTER, Ya.A.

Vladimir Oskarovich Gagen-Torn; obituary. TSvet.met. 27 no.5:67-68
S-O '54. (MIRA 10:10)

(Gagen-Torn, Vladimir Oskarovich, 1888-1954)

Postnikov, Nikolay Nikolayevich

ZHOLOBOV, Viktor Vladimirovich; BOGOYAVLENSKIY, Konstantin Nikolayevich;
ZUBTSOV, Mikhail Yefimovich; LANDIKHOV, Aleksandr Denisovich;
LEKARENKO, Yevgeniy Moiseyevich; ~~POSTNIKOV, Nikolay Nikolayevich~~;
MILLER, L.Ye., inzhener, retsenzent; BAZHENOV, M.F., inzhener,
retsenzent; CHERNOV, A.N., redaktor; STARADUBTSEVA, S.N., redaktor;
ATTOPOVICH, M.K., tekhnicheskiiy redaktor.

[Working non-ferrous metals and alloys by pressure] Obrabotka
tsvetnykh metallov i splavov davleniem. Moskva, Gos.nauchno-tekhn.
izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 486 p.
(Non-ferrous metals--Metallurgy) (MLRA 8:12)

SMIRYAGIN, Aleksey Petrovich; KOROL'KOV, kandidat tekhnicheskikh nauk, retsenzent; POSTNIKOV, N.N., inzhener, retsenzent; SHPICHINETSIIY, Ye.S., redaktor; KAMAYEVA, O.M., redaktor izdatel'stva; EVENSON, I.M., tekhnicheskiiy redaktor

[Industrial nonferrous metals and alloys] Promyshlennyye tsvetnyye metally i splavy. Izd. 2-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 559 p. (MIRA 9:7)
(Nonferrous metals)

POSTNIKOV, N.N.

CHERNYAK, Semen Natanovich, kand.tekhn.nauk; KARASEVICH, Viktor Ivanovich, inzh.; POSTNIKOV, N.N., inzh., retsenzent; SANDLER, G.G., inzh., retsenzent; MILLER, L.Ye., red.; NIKONOROVA, N.A., red.; EL'KIND, L.M., red.; KARASEV, A.I., tekhn.red.

[The manufacture of foil] Proizvodstvo fol'gi. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1957. 271 p. (MIRA 11:1)

(Metal foils)

137-58-4-6990

POSTNIKOV, N.N.
Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 98 (USSR)

AUTHORS: Postnikov, N. N., Shabashov, Ya. F.

TITLE: Development of the Production of Rolled Non-ferrous Metals and Alloys at the Krasnyy Vyborzhets Plant (Razvitiye proizvodstva prokata tsvetnykh metallov i splavov na zavode "Krasnyy vyborzhets")

PERIODICAL: V sb.: Metallurgiya. Moscow-Leningrad, AN SSSR, 1957, pp 146-153

ABSTRACT: The history of the development of this plant, which was founded in 1857, is presented. At the end of the first world war, the factory for its day was large for the metals industries and possessed reverberatory furnaces for smelting Cu, a shop for crucible smelting of brass, rolling mills, and a medium-size Mannesmann tube mill. After the revolution, crucible smelting was replaced by electrical smelting, and an extrusion shop was built. In addition to products of Cu and brass, the smelting of bronze was developed. Currently, the plant manufactures products for the shipbuilding, automobile and tractor, radio-engineering, and other industries. In post-war years, a number of major under-

Card 1/2

137-58-4-6990

Development of the Production of Rolled Non-ferrous Metals (cont.)

takings were carried out at the mill for the purpose of introducing modern processes and technologies, and for improving economic and technical performance.

Yu. F.

1. Metals--Development--USSR
2. Metal alloys--Development--USSR

Card 2/2

POSTNIKOV, N. N.
SHAROV, I. Ye.; POSTNIKOV, N. N.

The "Krasnyi Vyborzhets" plant is one hundred years old. TSvet.met.
30 no.8:1-11 Ag '57. (MIRA 10:10)

1. Direktor zavoda "Krasnyy Vyborzhets" (for Sharov). 2. Glavnyy
tekhnolog zavoda "Krasnyy Vyborzhets" (for Postnikov).
(Leningrad--Metallurgical plants) (Copper industry)

DNESTROVSKIY, Nikolay Zinov'yevich; POMERANTSEV, Sergey Nikolayevich;
SHIPICHINETSKIY, Ye.S., kand. tekhn. nauk, retsenzent; POSTNIKOV,
M.M., inzh., retsenzent; RZHEZNIKOV, V.S., red.; KOSOLAPOVA, E.F.,
red. izd-va; BERLOV, A.P., tekhn. red.

[Concise manual on working nonferrous metals and alloys] Kratkiy
spravochnik po obrabotke tsvetnykh metallov i splavov. Moskva,
Gos. nauchno-tekhn. izd-vo lit-ry po chernoi metallurgii, 1958.
406 p. (MIRA 11:8)

(Nonferrous metals--Metallurgy)

VIDENOVA, R.R.; SOKLAKOV, A.I.; POSTNIKOV, N.N.

Röntgenography of coke and graphite saturated with sodium chloride. Khim i industriia 36 no.10:371-373 '64.

1. Institute of Mining Geology, Sofia. Submitted October 16, 1964.

POSTNIKOV, N.N.

Use of natural gas for the reduction of phosphotites in the production of elemental phosphorus. Khim.prom. no.1:62-64 Ja '64. (MIRA 17:2)

POSTNIKOV, N. N., doktor tekhn. nauk; FRENKEL', M. G., kand. tekhn. nauk

Production of phosphoric acid and concentrated fertilizers based
on the electrothermal treatment of phosphates. Zhur. VKHO 7
no.5:500-506 '62. (MIRA 15:10)

(Phosphoric acid)
(Fertilizers and manures)

POSTNIKOV, N.N.

Dust formation in the process of electrosublimation of phosphorus.
Zhur.prikl.khim. 33 no.1:65-70 Ja '60. (MIRA 13:5)
(Phosphorus)
(Sublimation (Physical sciences))

MIKHAYLIN, A.D.; POSTNIKOV, N.N.

Preparation of tagged carbon from radioactive carbonic acid.
Radiokhimiia 2 no.6:246-248 '60. (MIRA 14:4)
(Carbon—Isotopes)
(Carbonic acid)

24398

S/186/60/002/002/018/022
E071/E43321.4100AUTHORS: Mikhaylin, A.D. and Postnikov, N.N.TITLE: The preparation of marked carbon from radioactive carbon dioxide

PERIODICAL: Radiokhimiya, 1960, Vol.2, No.2, pp.246-248

TEXT: A method of preparation of radioactive carbon from radioactive carbon dioxide in the form of carbon black similar in reducing properties to that prepared from acetylene is described. The method is based on the reduction of carbon dioxide with magnesium. The vessel in which the reduction is carried out is a cylindrical thick-walled flask made from molybdenum glass, closed with a stopper through which two copper electrodes are passed. A molybdenum spiral was fixed to the ends of the electrodes. It was covered with magnesium filings supported in the vessel by a quartz grid. Two such vessels were used in the experiments. After blowing through with pure carbon dioxide for 1 hour, the vessels were evacuated to 10^{-6} to 10^{-7} mm Hg and the first vessel was filled with radioactive carbon dioxide to a pressure of 740 to 760 mm Hg and an electric current (15 A) was passed through.

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S/186/60/002/002/018/022
E071/E433

The preparation of marked carbon ..

the spiral. As soon as the magnesium began to burn, the current was reduced to about 2-3 A and increased again as the intensity of combustion decreased until the combustion stopped. After cooling, the pressure in the vessel indicated the amount of the carbon dioxide reacted. The remaining carbon dioxide was passed into the second vessel for the continuation of the reduction process and the first vessel was again filled with fresh carbon dioxide. At the end of the process the reduction products were washed out from the reaction vessel, evaporated to a 100 ml volume and treated with 50 ml of concentrated hydrochloric acid in order to dissolve admixtures (magnesium and molybdenum oxides, residual magnesium, carbides). The carbon suspension was filtered, washed, dried and ignited at 1000°C in a stream of well purified nitrogen for 4 hours. The yield of ignited carbon was 88% (98.76% C). X-ray and electron microscopic investigations indicated that it was in the form of β -graphite of a crystal size of 10^{-5} to 10^{-6} and that the microstructure was similar to that of carbon black obtained from acetylene. The reducing ability of the radioactive carbon black was found to be identical to that obtained from acetylene (based on Card 2/3

24398

The preparation of marked carbon .. S/186/60/002/002/018/022
E071/E433
the reduction of chemically pure tricalcium phosphate). There
are 2 figures.

SUBMITTED: June 24, 1959

Card 3/3

DNESTROVSKIY, Nikolay Zel'manovich; POMERANTSEV, Sergey Nikolayevich
[deceased]; ZVEREV, V.V. [deceased]; SHPICHINETSKIY, Ye.S., kand.
tekhn. nauk, retsenzent; POSTNIKOV, N.N., inzh., retsenzent; RZHEZ-
NIKOV, V.S., red.; KOSOLAPOVA, E.F., red. izd-va; BERIOV, A.P., tekhn.
red.

[Brief manual on the treatment of nonferrous metals and alloys] Krat-
kii spravochnik po obrabotke tsvetnykh metallov i splavov. Moskva,
Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1961. 410 p. (MIRA 14:8)

(Nonferrous metals) (Metalwork)

VOL'FKOVICH, S.I.; IONASS, A.A.; POSTNIKOV, N.N.; REMEN, R.Ye.; SIDEL'DOVSKIY,
L.N.; SHURYGIN, A.P.; DEREVITSKIY, P.F.; YAGODINA, T.N.

Hydrothermal process of defluorination of natural phosphates in a
cyclone furnace. Khim.prom. no.8:674-680 D '59. (MIRA 13:6)

1. Nauchnyy institut po udobreniyam i insektofungisidam im. Ya.V.
Samoylova i Moskovskiy energeticheskiy institut im. Molotova.
(Phosphates) (Fluorine)

CA

Electrothermal volatilization of phosphorus from Khibinsk apatites. N. N. POSYNIKOV AND YU. M. RABINOVICH. *Udobrenia i Troshki (Fertilizers and Crops)* 2, 910-21(1980). In a series of expts. with a single phase elec. furnace of 0 kw, a diagram of which is given, several samples of apatite with a variable P_2O_5 compn. were heated with or without SiO_2 , with CaO , and with addn. of $NaCl$. The first expt. (SiO_2 , CaO = 0.7) and the % of P_2O_5 in the mixture = 27.7) indicates the possibility of volatilizing P from apatite. The slag obtained had an acidity of 1.33 (the acidity is the ratio of SiO_2 and sesquioxides to the oxides of Ca, Mg and K). Under such conditions 10% yields were obtained by expending 10.9 kw. hrs. for 1 kg. of P. With a more normal arrangement of the furnace a higher coeff. is expected. When the ratio of SiO_2 to CaO equaled 2.51 and the % of P_2O_5 in the mixt. was 30.5, the percent yield was lower and the slags obtained show the possibility of running the process with slags of an acidity 1.08. Addn. of 3 to 4% of $NaCl$ increased the fluidity of the slags. Notwithstanding the excess of carbon added no carbides were detected. The temp. varied from 1300° to above 1700°. Compns. of the slags, gases, etc. are given. J. S. JORRE.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND CODES																										3RD AND 4TH CODES																									
PROCESSES AND PROPERTIES INDEX																										1ST AND 2ND CODES																									
<i>W</i> The electrical volatilization of phosphorus from Khibin apatite-nephelite minerals. N. N. POSTNIKOV AND YU. M. RABINOVICH. <i>J. Chem. Ind. (Moscow)</i> 8, No. 21-22, 1-12 (1931); cf. <i>C. A.</i> 25, 3920.—These ores are excellent sources of P. Addn. of 3-4% NaCl to the ores before treatment lowers the m. p. No SiO₂ need be added. The residual slag can be used for making glass or cement. H. M. LEICHTNER																																																			
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ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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PROCESSES AND PROPERTIES INDEX

4

The electrothermal production of phosphoric acid from natural phosphates. N. N. Postnikov—*J. Chem. Ind. (Moscow)* 1933, No. 6, 43-8.—Various processes are described and compared. H. M. Leicester

ASAC-5LA METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100